




Water Conditions Summary

Operations Control Division

Water Resource Operations

Governing Board Workshop Presentation
March 27, 2001



Meteorological Conditions

Governing Board Presentation - March 27, 2001

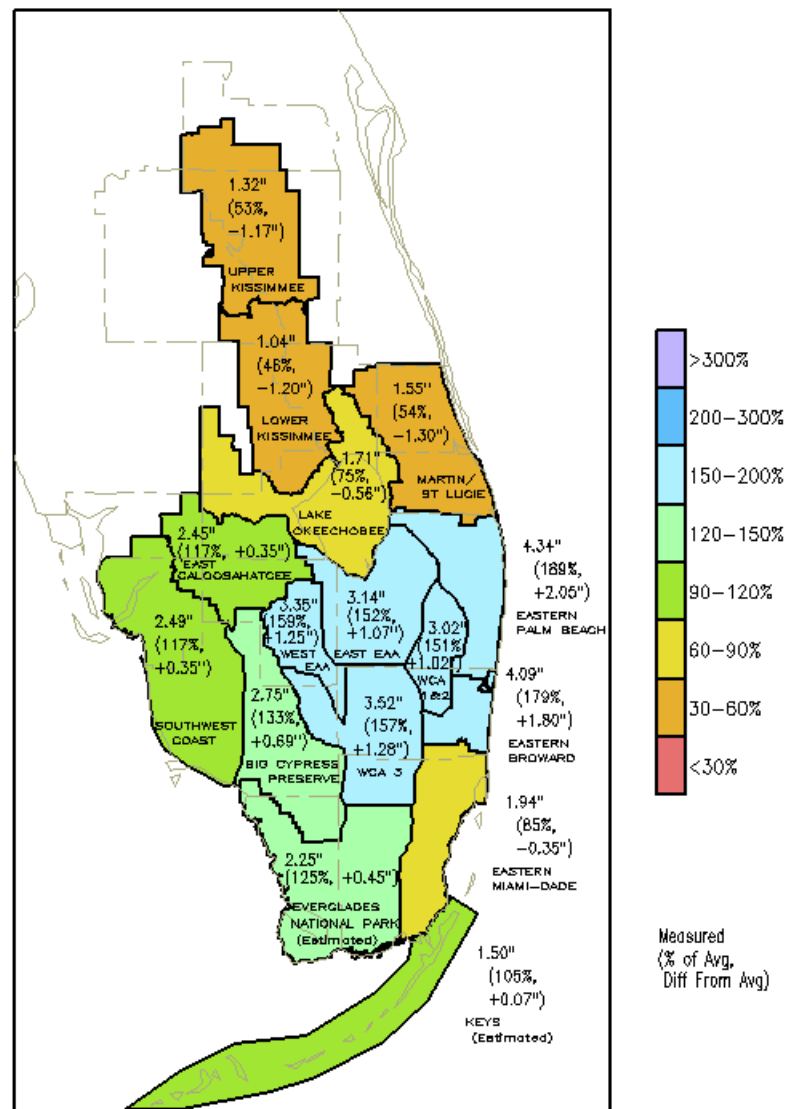
Meteorological Conditions

- **March Rainfall To-Date is slightly above normal District-wide**
- March Rainfall : To-date District-wide rainfall is 105% of average
 - Normal month to date = 2.27 inches
 - So far this month = 2.39 inches



SFWMD Rainfall 02-mar-2001 to 26-mar-2001

- To-Date March 2001
 - Normal rainfall so far in the southwest portion of the District
 - Above normal rainfall in Palm Beach/Broward counties and WCAs
- Rainfall District-wide over this period was 2.38 inches
- This was about 0.11 inches above average (105% of avg.)



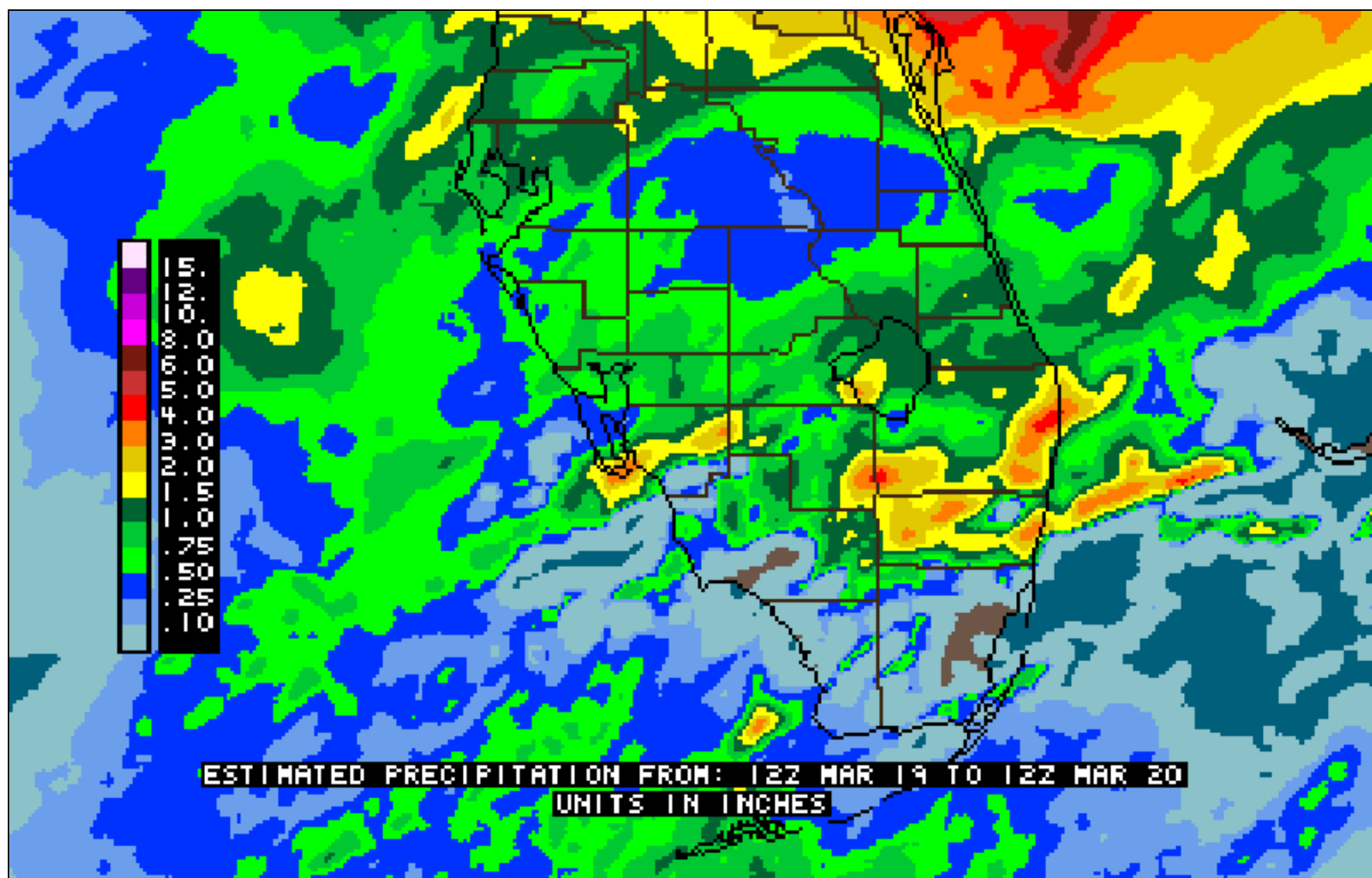
DISTRICT-WIDE: 2.38" (105%, +0.11")

GRADS: COLA/IGES

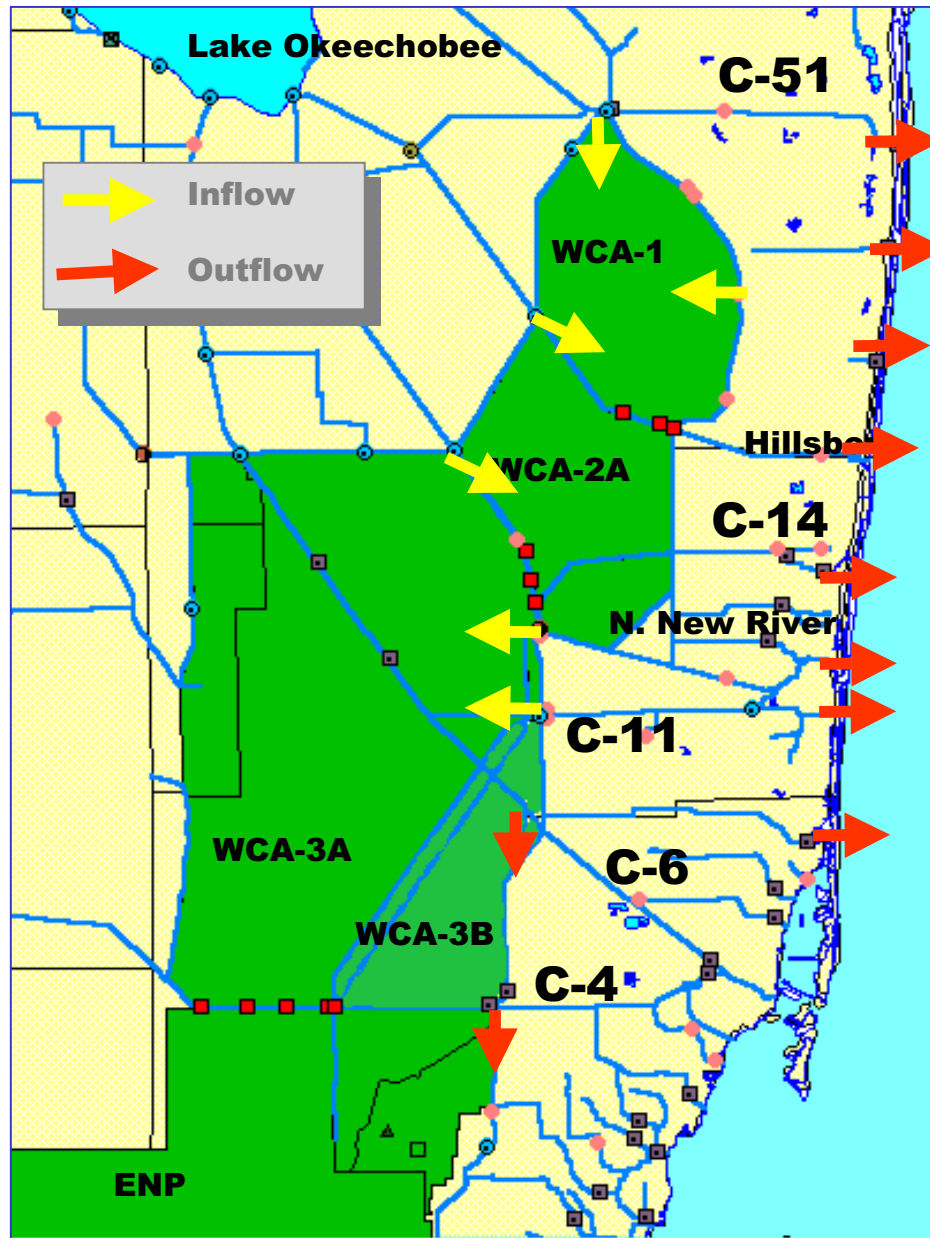
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March 16th - 19th Rainfall Event

- Rainfall over south Florida's lower east coast occurred during the 4-days from Friday, 3/16 to Monday, 3/19:
 - Palm Beach (837 sq-mi) = 4.22"
 - Broward (324 sq-mi) = 3.39"
 - Miami-Dade (871 sq-mi) = 0.89"
 - **Total Rainfall:** 288,000 acre-feet



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Generalized Storm Event Operations

- LEC Flood Control Operations
- EAA Flood Control Operations
- Water Conservation Inflows
 - G-94C
 - G-123

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March 16th - 19th Rainfall Event

- 10 coastal water control structures were used to discharge a total of 16,500 Acre-Feet (5.4 billion gallons) to tide in Palm Beach, Broward and Miami-Dade counties to avoid flooding
- This discharge volume represents only 5.7% of the rainfall (288,000 ac-ft) that fell over the 3 county area
 - Palm Beach: 7.0% of total rainfall discharged
 - Broward: 3.6% of total rainfall discharged
 - Miami-Dade: 2.9% of total rainfall discharged

March 16th - 19th Rainfall Event

- Some flooding was reported in portions of Palm Beach County
- Lake Worth Drainage District used G-94C to discharge runoff into WCA-1
- S-9 and G-124 were used to pump excess water into WCA-3A
- Discharged about 9,600 Ac-Ft into WCA-1 & 2A from EAA

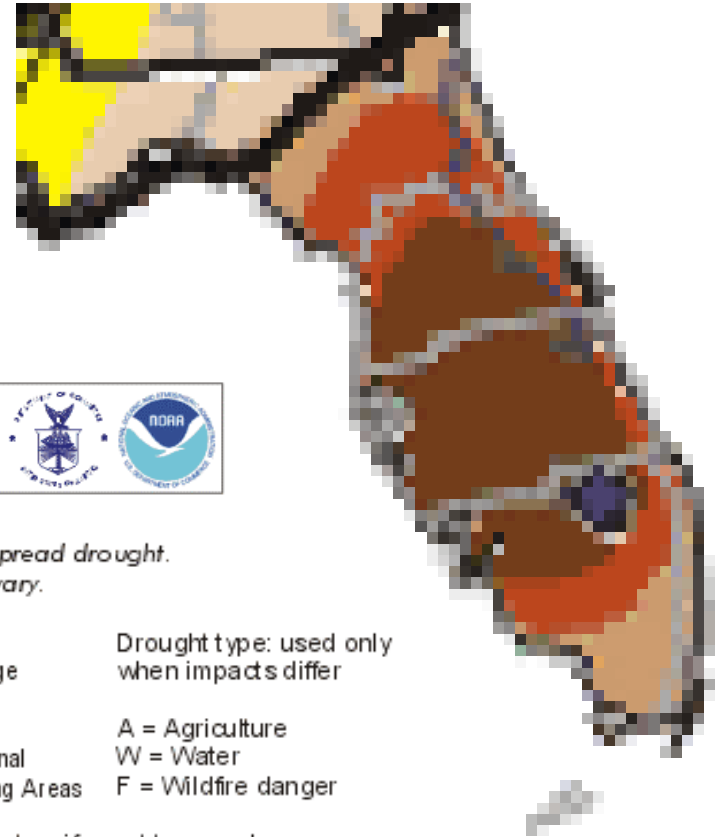
Climate Prediction Center U.S. Drought Monitor


- Severe to Exceptional drought conditions continue to exist across most of the District as a result of deficit precipitation



•
*Map focuses on widespread drought.
Local conditions may vary.*

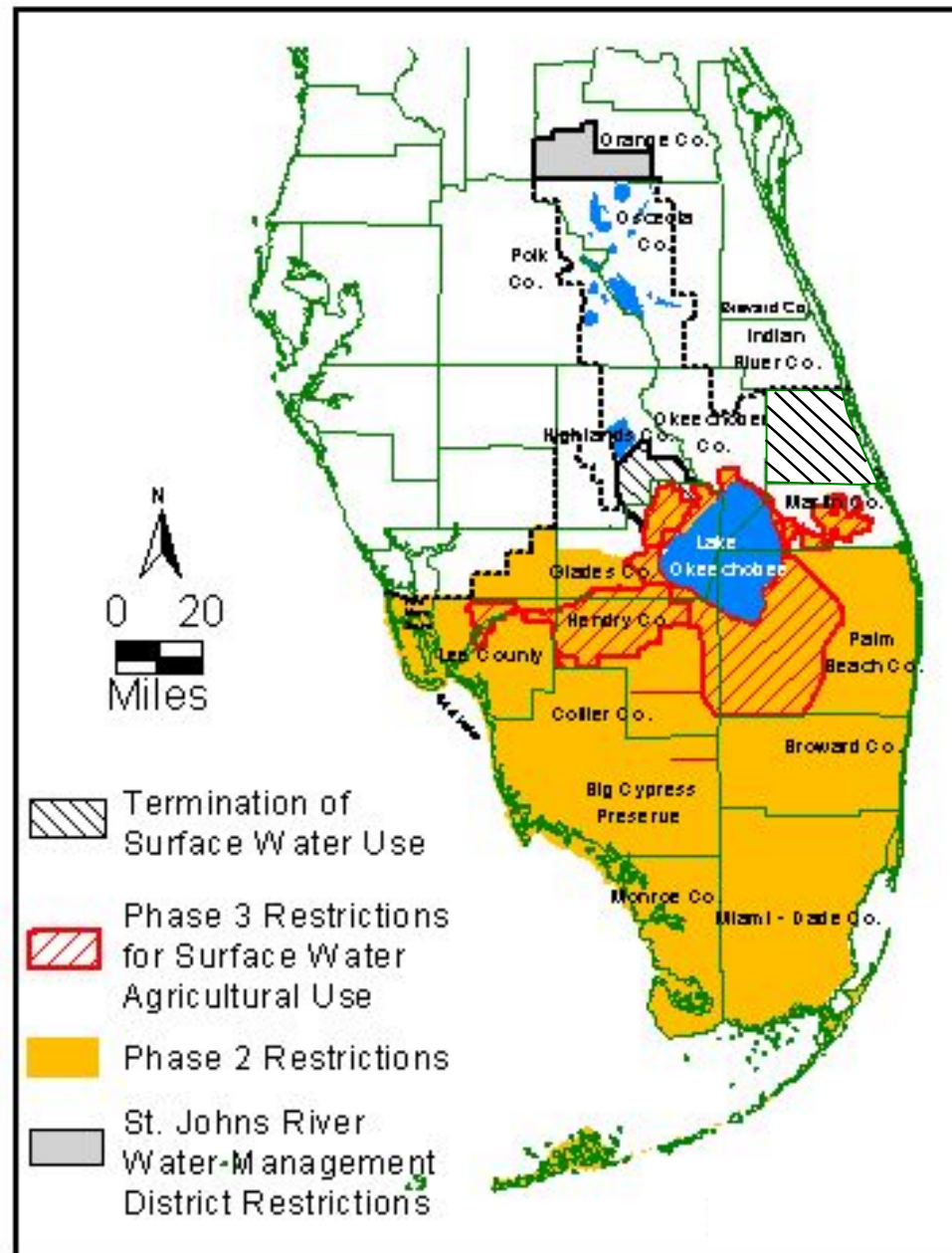
D0 Abnormally Dry	Drought type: used only when impacts differ
D1 Drought-First Stage	
D2 Drought-Severe	
D3 Drought-Extreme	
D4 Drought-Exceptional	A = Agriculture
Delineates Overlapping Areas	W = Water
	F = Wildfire danger
Plus (+) = Forecast to intensify next two weeks	
Minus (-) = Forecast to diminish next two weeks	
No sign = No change in drought classification forecast	










General Hydrologic Conditions

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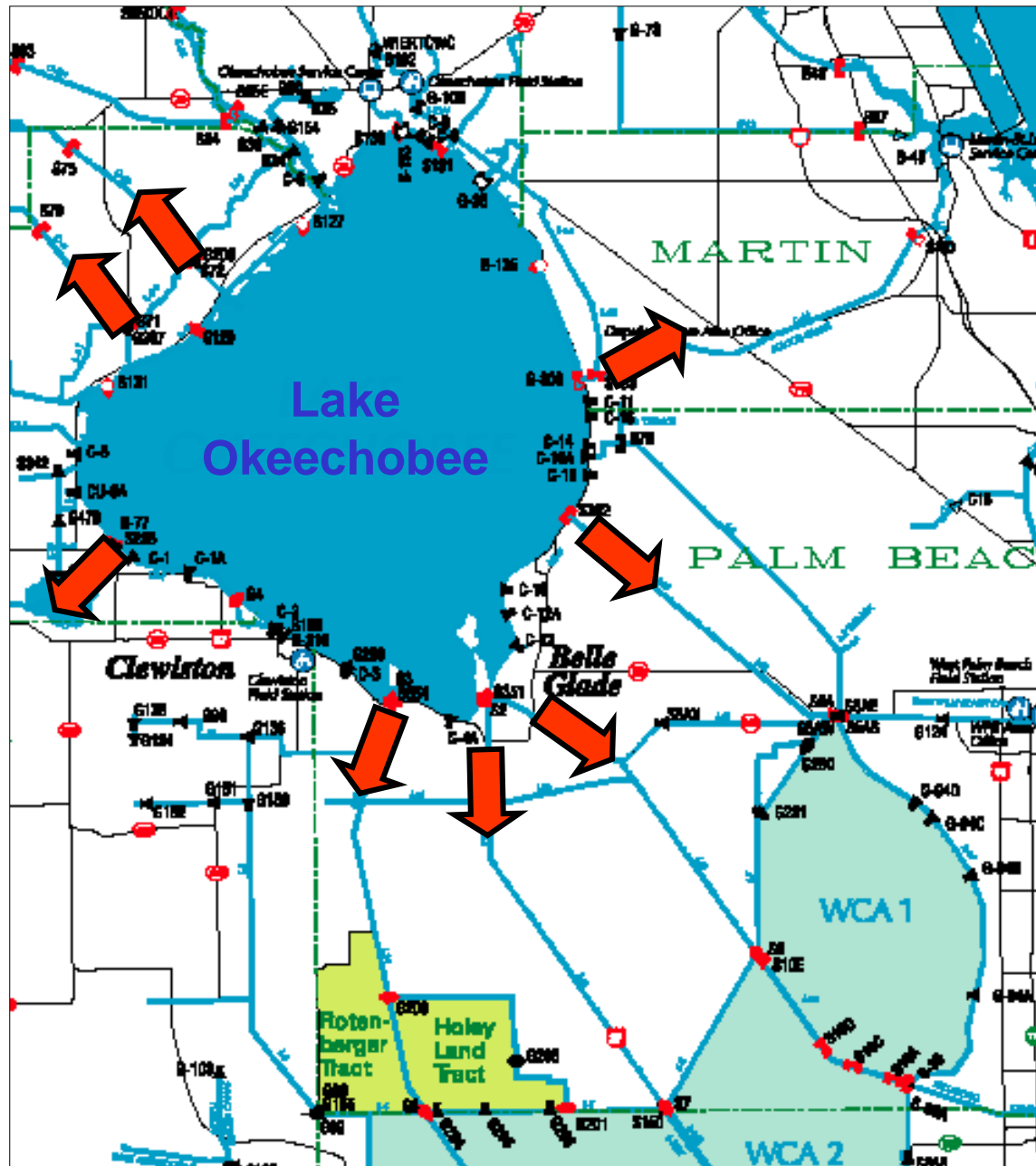
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General Hydrologic Conditions

-  **Upper Chain** - Low seasonal lake levels
-  **Kissimmee River** - Low seasonal levels
-  **Lake Okeechobee** - Very low dry season levels
 - Littoral Zone recovering
 - Stages cause concern for water supply
-  **Estuaries** - Chlorides high and slowly rising
-  **Lake Okeechobee Agriculture** - Water supply concerns

General Hydrologic Conditions

-  **Water Conservation Area 1** - Low Stages
-  **Water Conservation Area 2** - Low Stages
-  **Water Conservation Area 3** - Low Stages
-  **ENP** - Normal seasonal conditions
-  **Fl. Bay** - Normal seasonal conditions
-  **Upper East Coast** - Water supply concerns
-  **Lower East Coast** - Water supply concerns
-  **Lower West Coast** - Water supply concerns



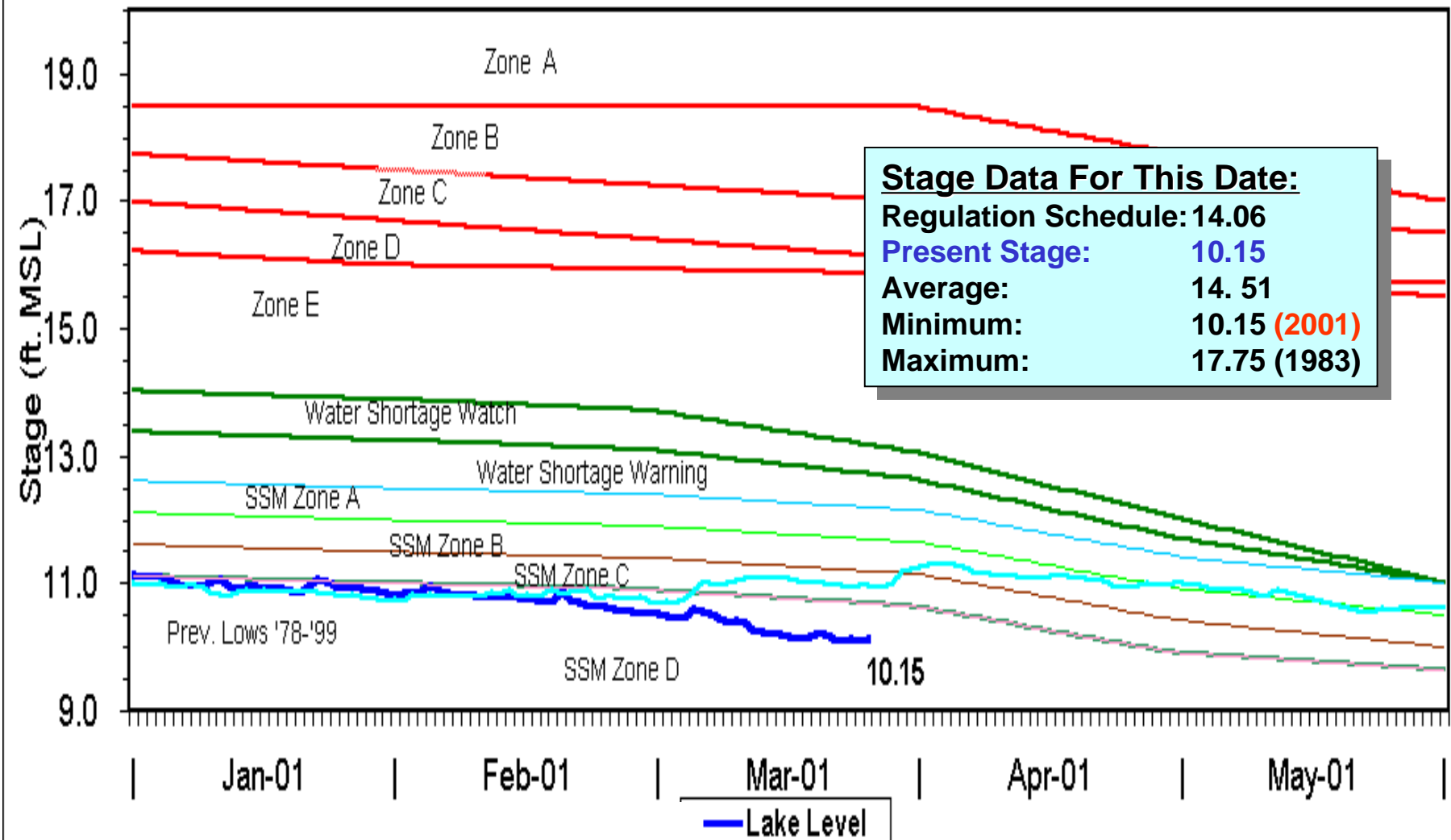
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Hydrologic Conditions Lake Okeechobee

- Phase III water restrictions remain in place for agricultural uses in the Lake Okeechobee Service Area
- USACE increased lockage restrictions this week on the Okeechobee Waterway
- SFWMD staff working closely with public water supply utilities for communities surrounding Lake Okeechobee
 - Concern over ability to withdraw adequate water at low lake stages

Lake Okeechobee

Published: 03/26/2001



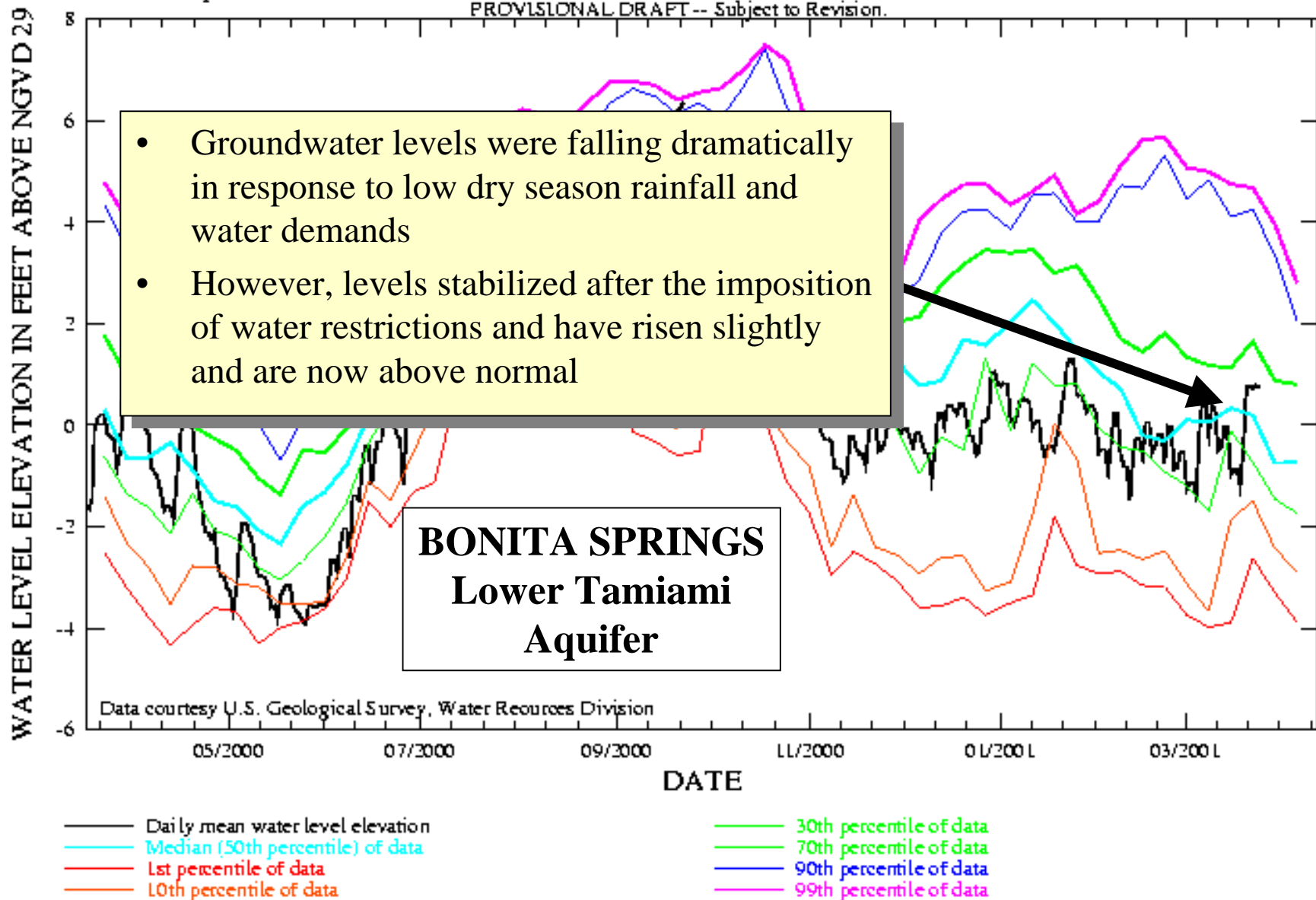
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Lower West Coast Conditions

- Lower Tamiami, Mid-Hawthorne and Sandstone Aquifers have recovered slightly in response to local rainfall

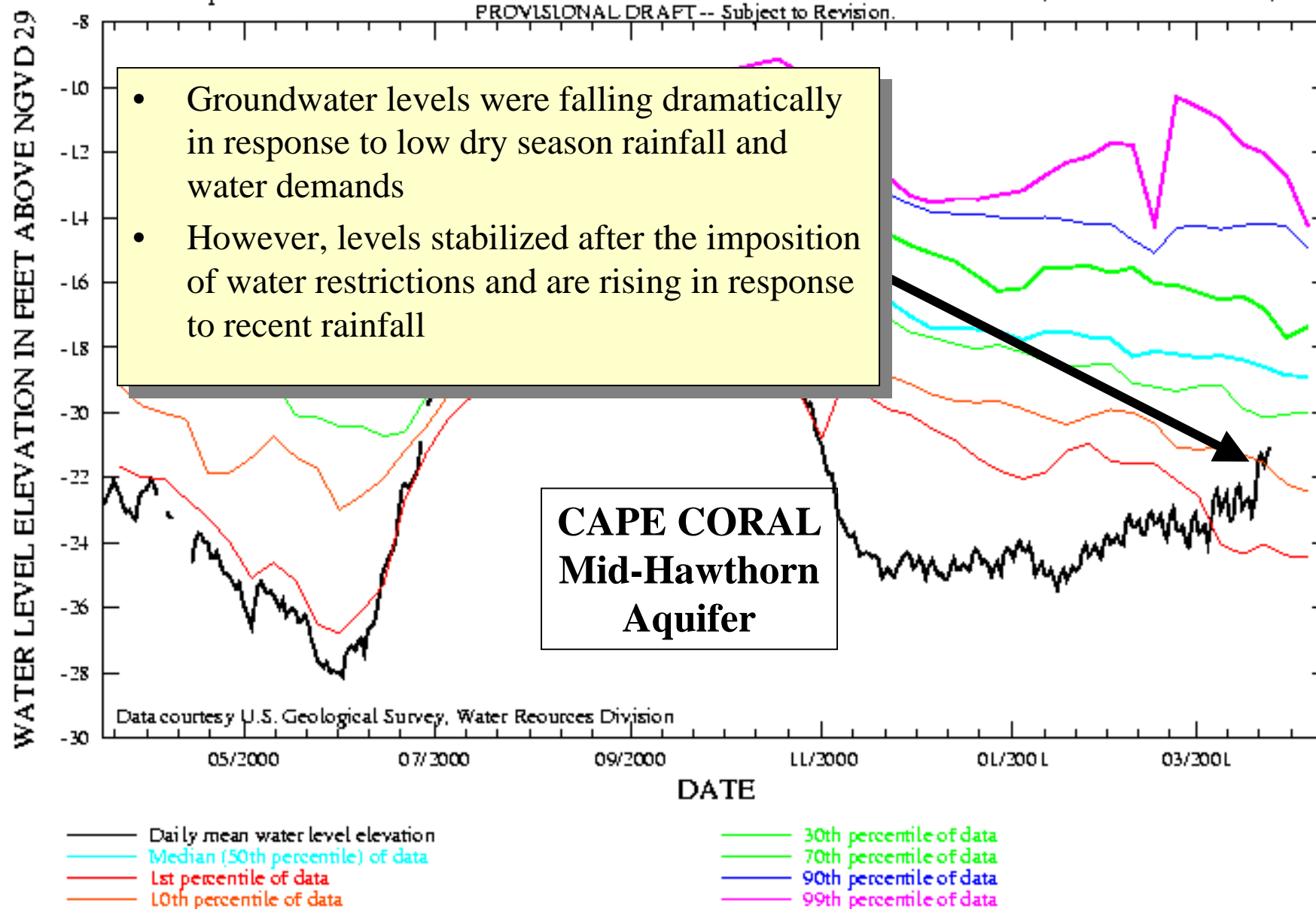
Comparison of current water level elevations to historical data at L - 738 (262022081464201)

PROVISIONAL DRAFT -- Subject to Revision.



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Comparison of current water level elevations to historical data at L -2644 (263440082022001)
PROVISIONAL DRAFT -- Subject to Revision.



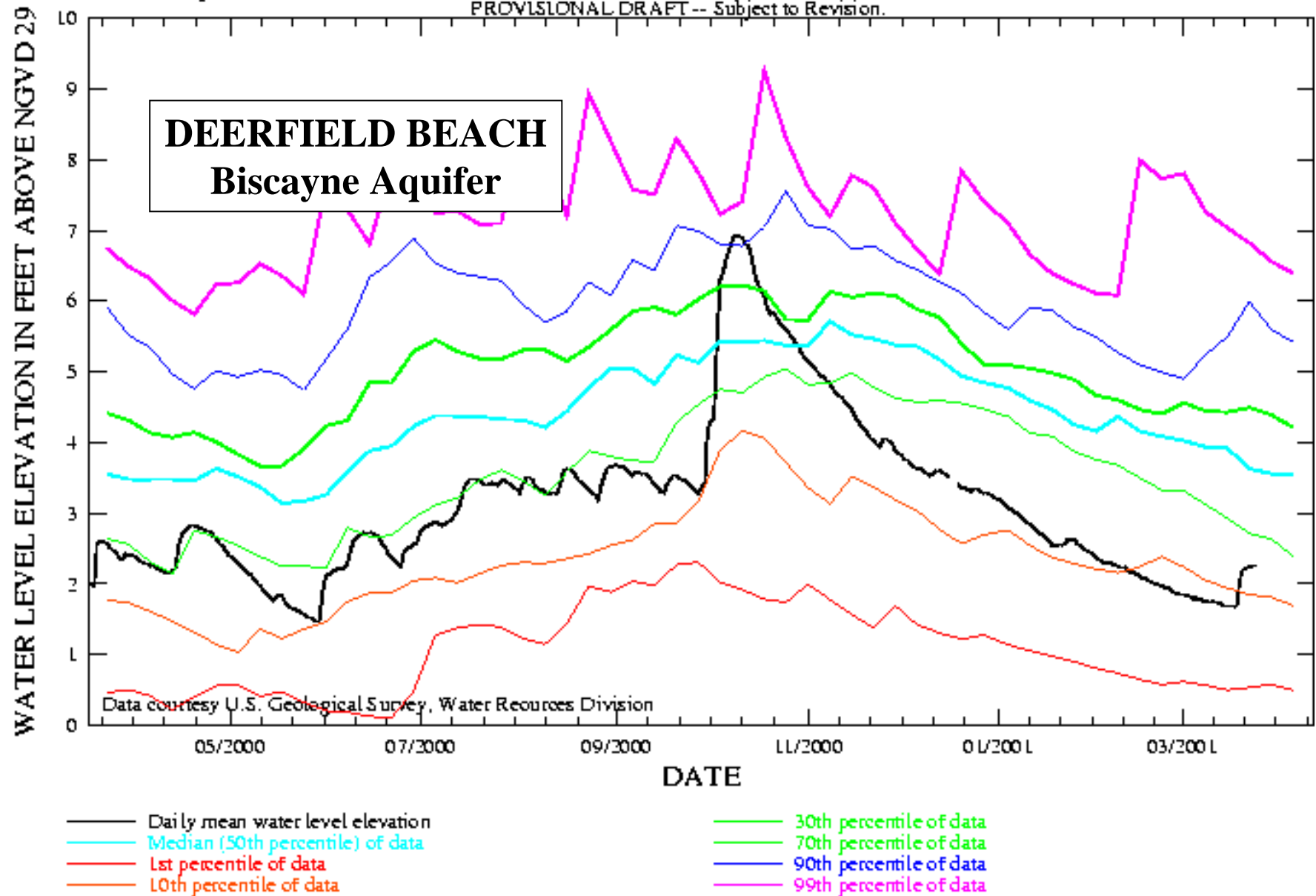
Hydrologic Conditions

Lower East Coast

- Recent rainfall has brought canal levels up to normal dry season stages
- Groundwater levels are near normal for this time of year as a result of recent rains

Comparison of current water level elevations to historical data at G -1260 (261903080065601)

PROVISIONAL DRAFT -- Subject to Revision.

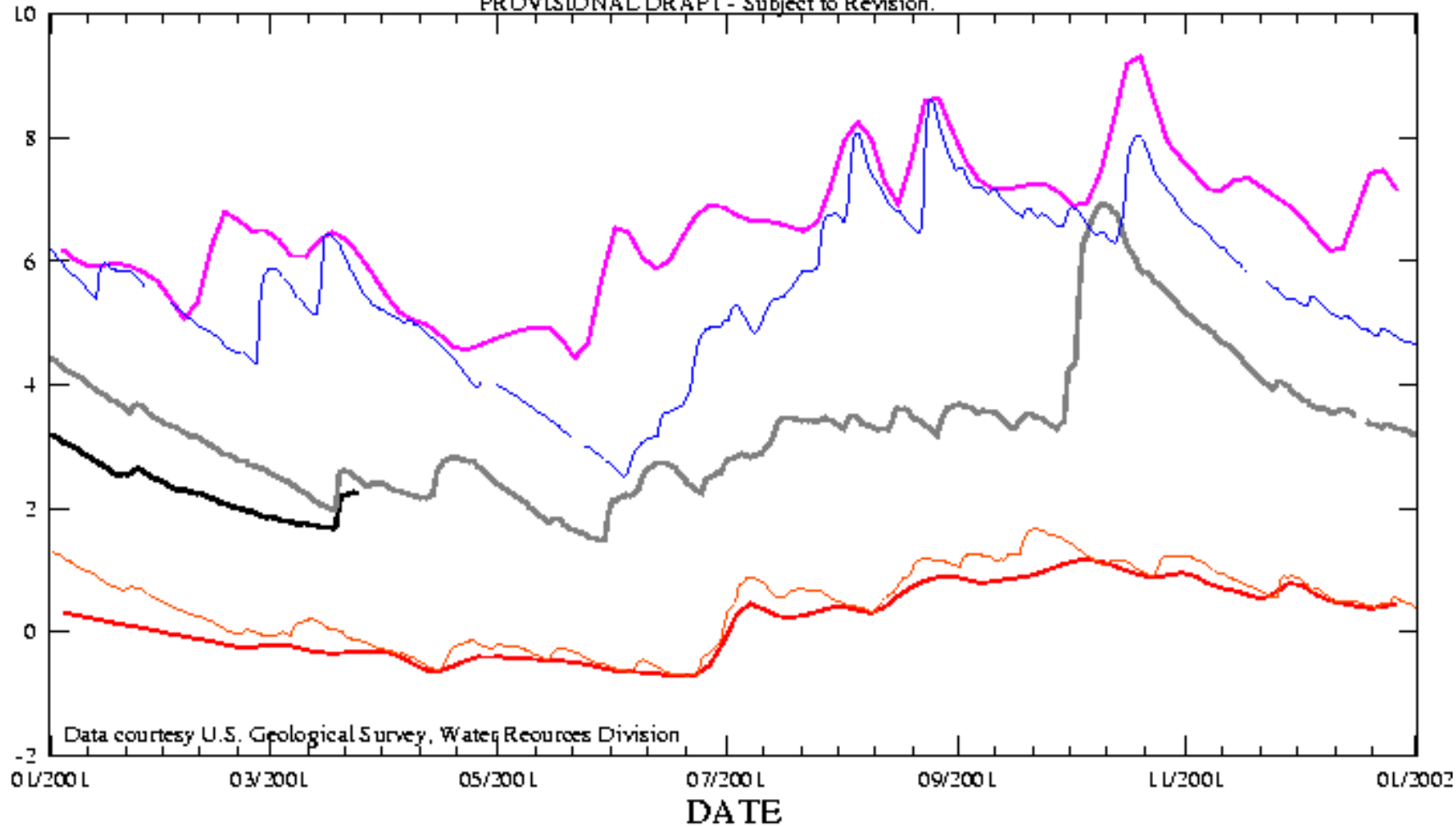


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WATER LEVEL ELEVATION IN FEET ABOVE NGVD 29

Water level elevations for the current year at G -1260 (261903080065601)

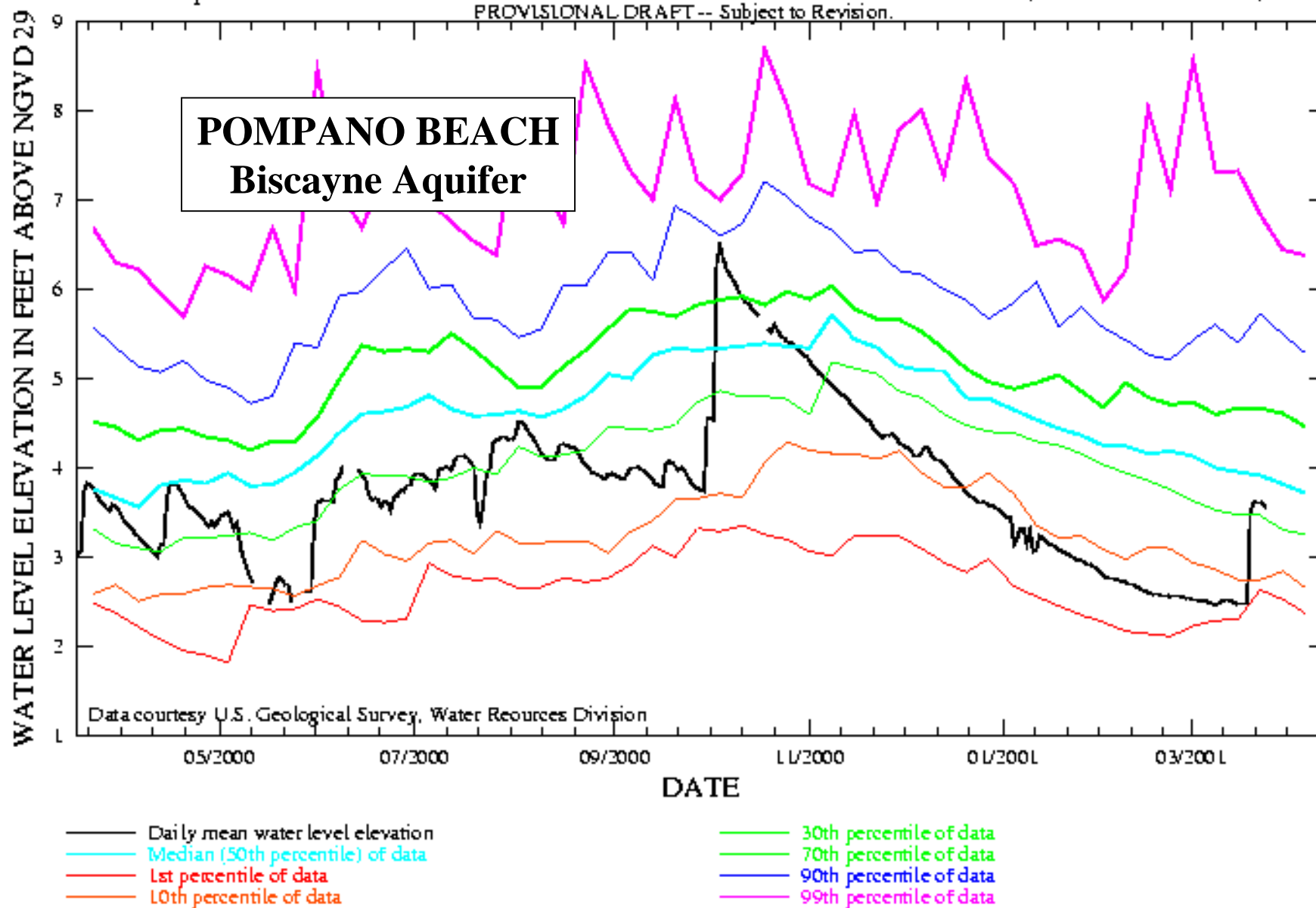
PROVISIONAL DRAFT - Subject to Revision.



- Daily maximum water level elevation, current year
- Daily maximum water level elevation, last year
- Maximum daily maximum water level elevation (by week)
- Minimum daily maximum elevation (by week)
- Daily maximum water level elevation, 1995
- Daily maximum water level elevation, 1989 drought

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Comparison of current water level elevations to historical data at G -2147 (261501080060701)
 PROVISIONAL DRAFT -- Subject to Revision.

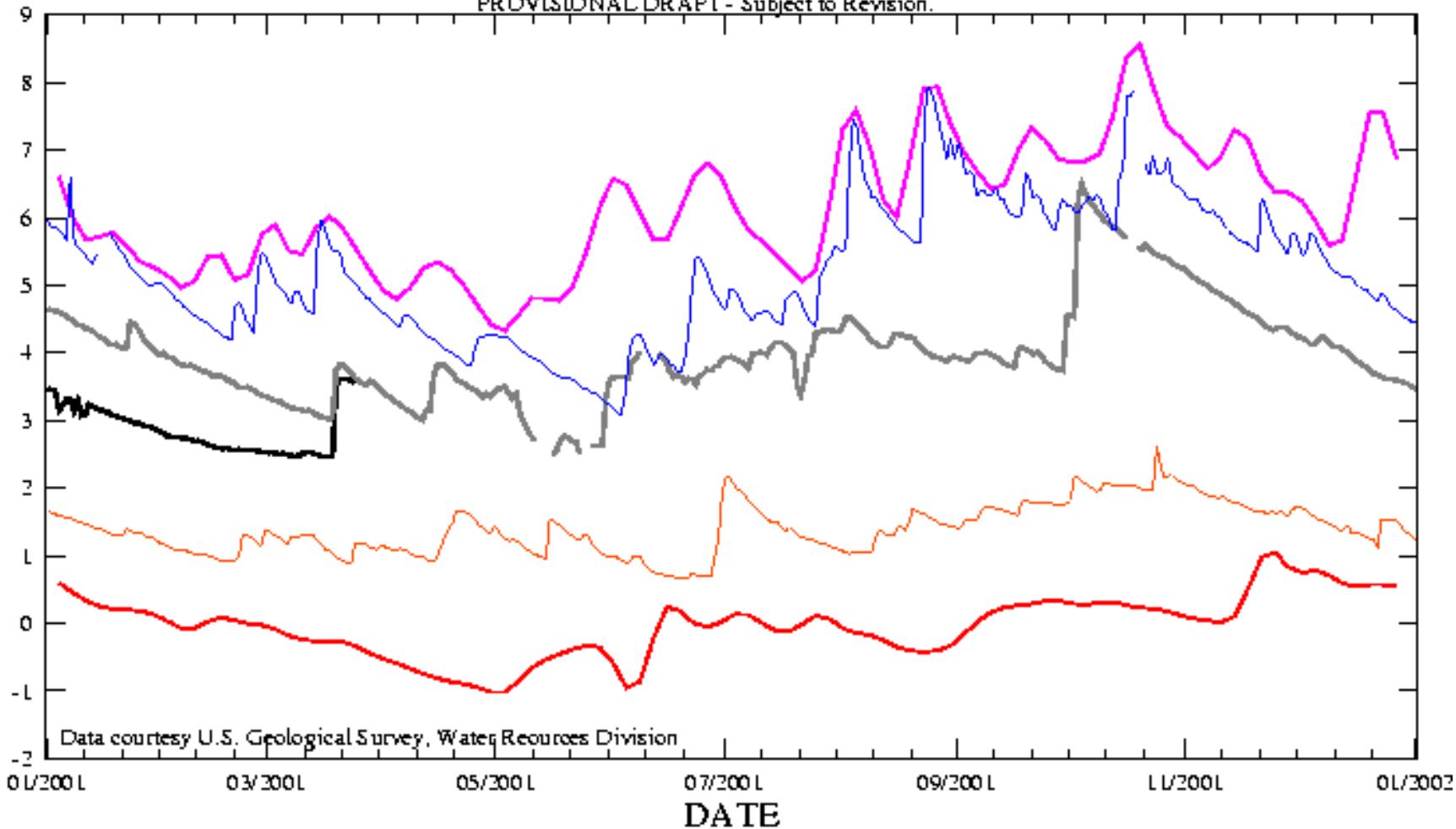


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Water level elevations for the current year at G -2147 (261501080060701)

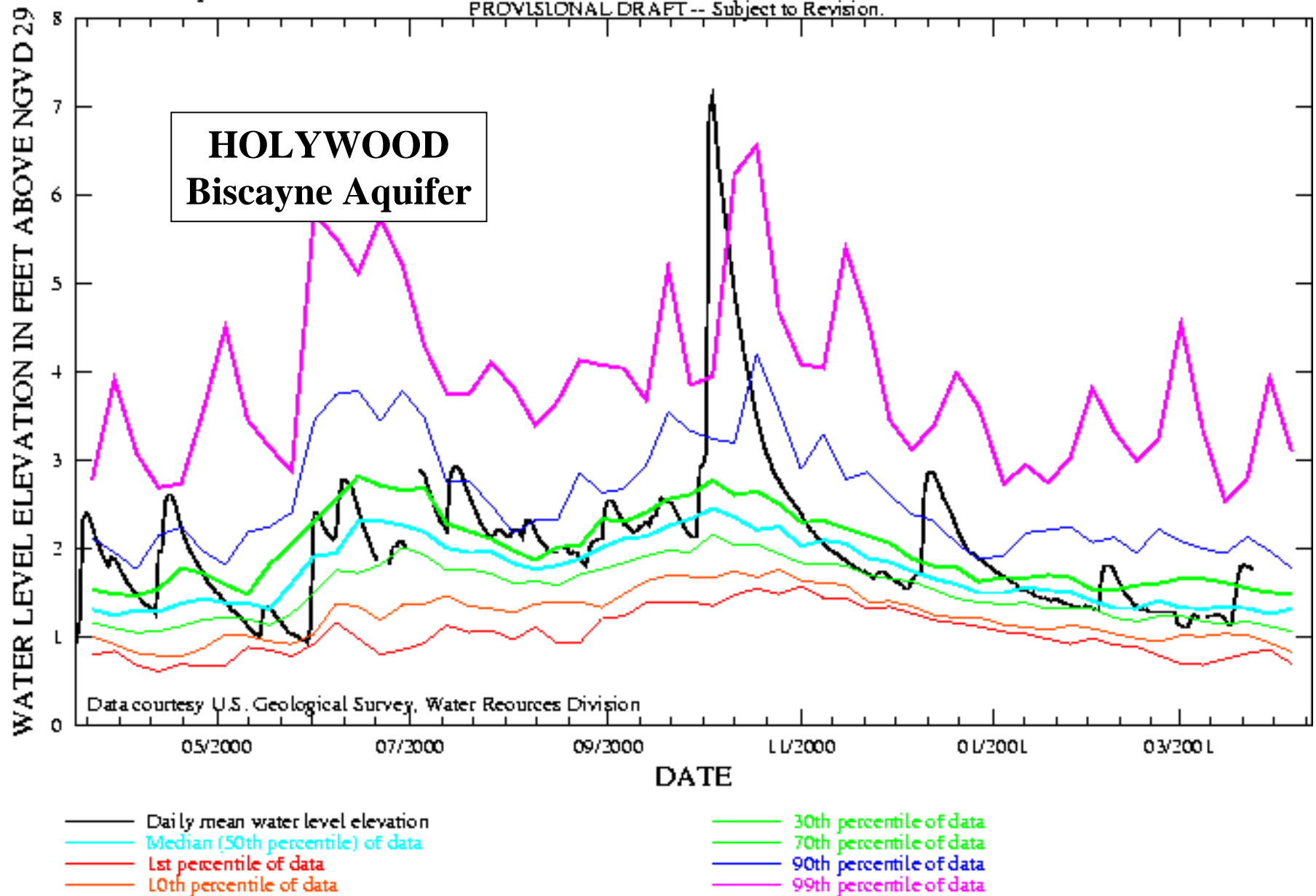
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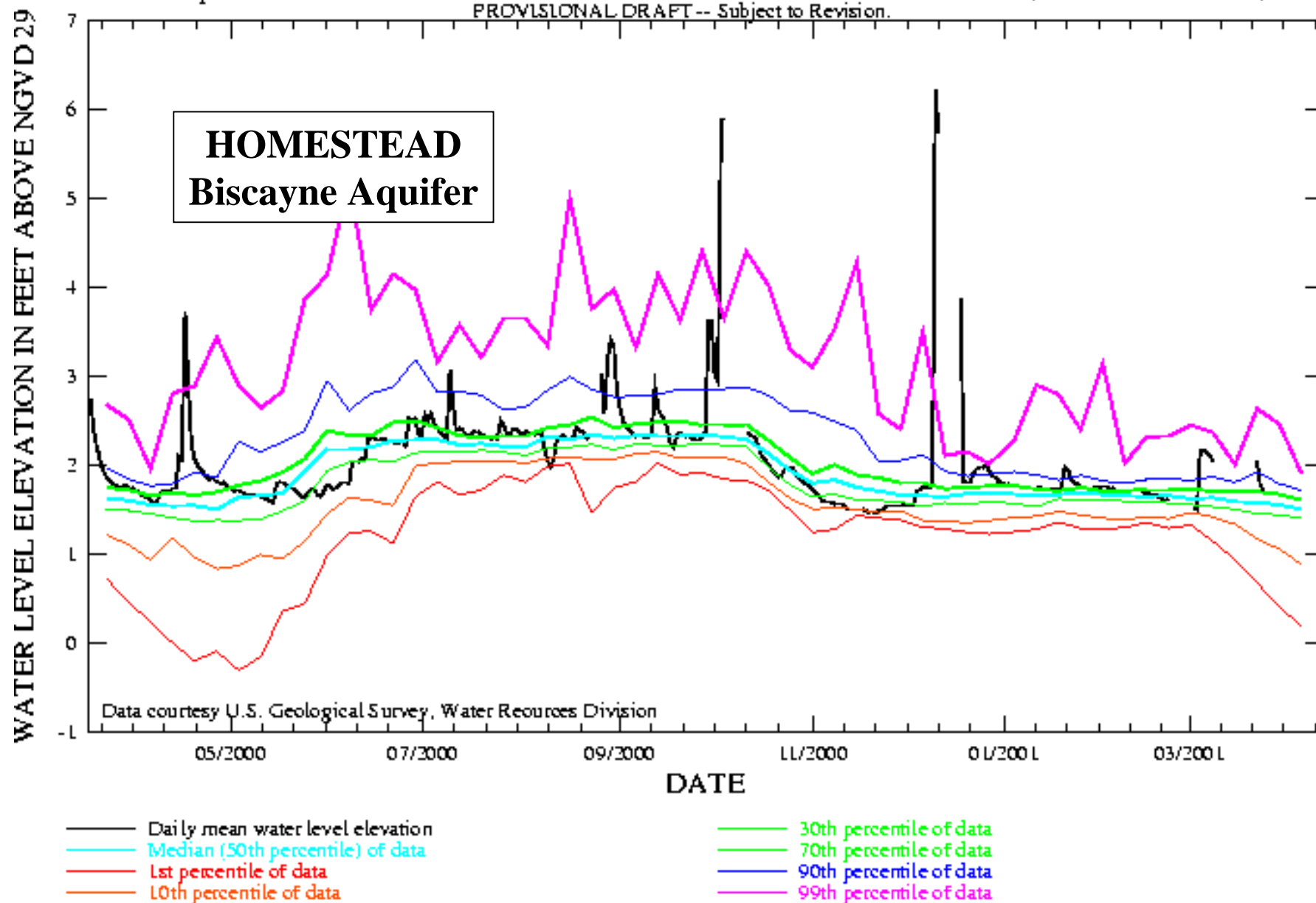
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Comparison of current water level elevations to historical data at F - 291 (260010080085001)
PROVISIONAL DRAFT -- Subject to Revision.



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Comparison of current water level elevations to historical data at G -1183 (252918080234201)
 PROVISIONAL DRAFT -- Subject to Revision.

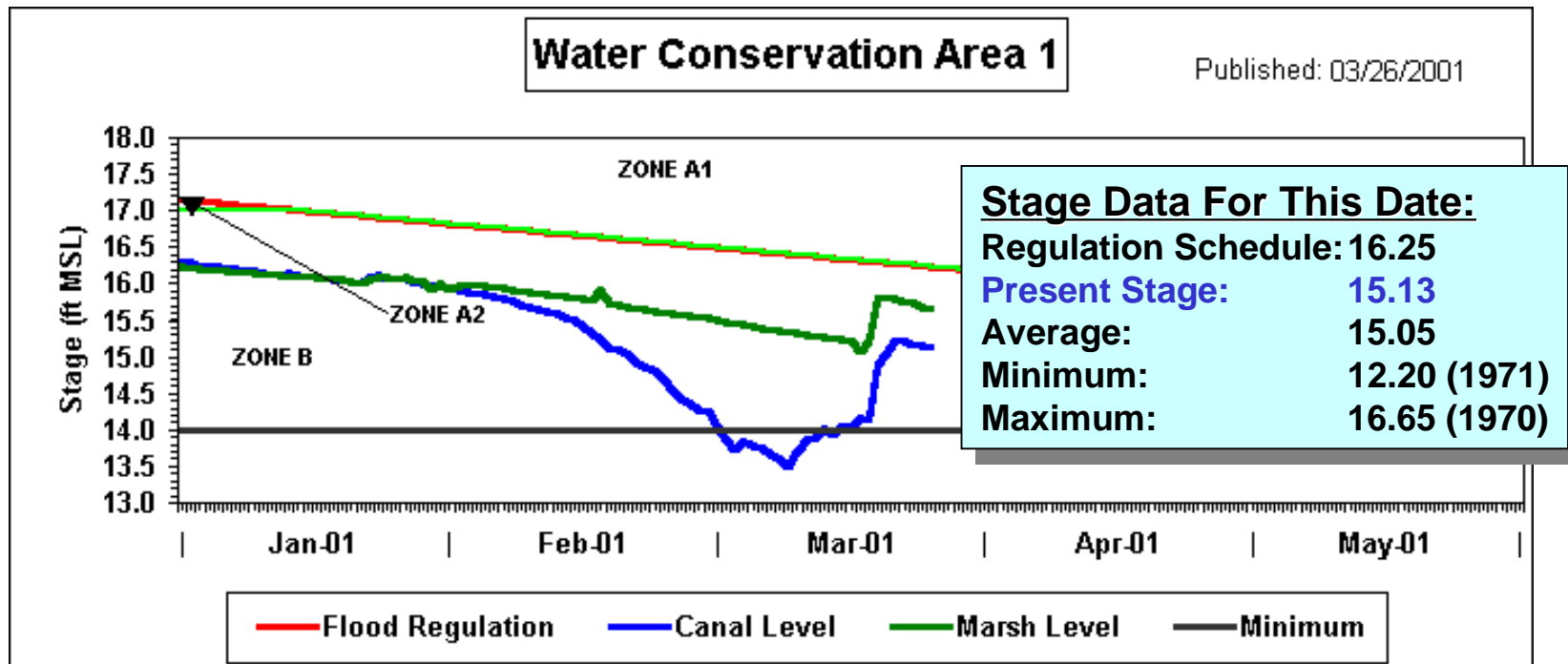


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Hydrologic Conditions

Water Conservation Areas

- Stages slightly above average for this date
- No water supply releases to LEC

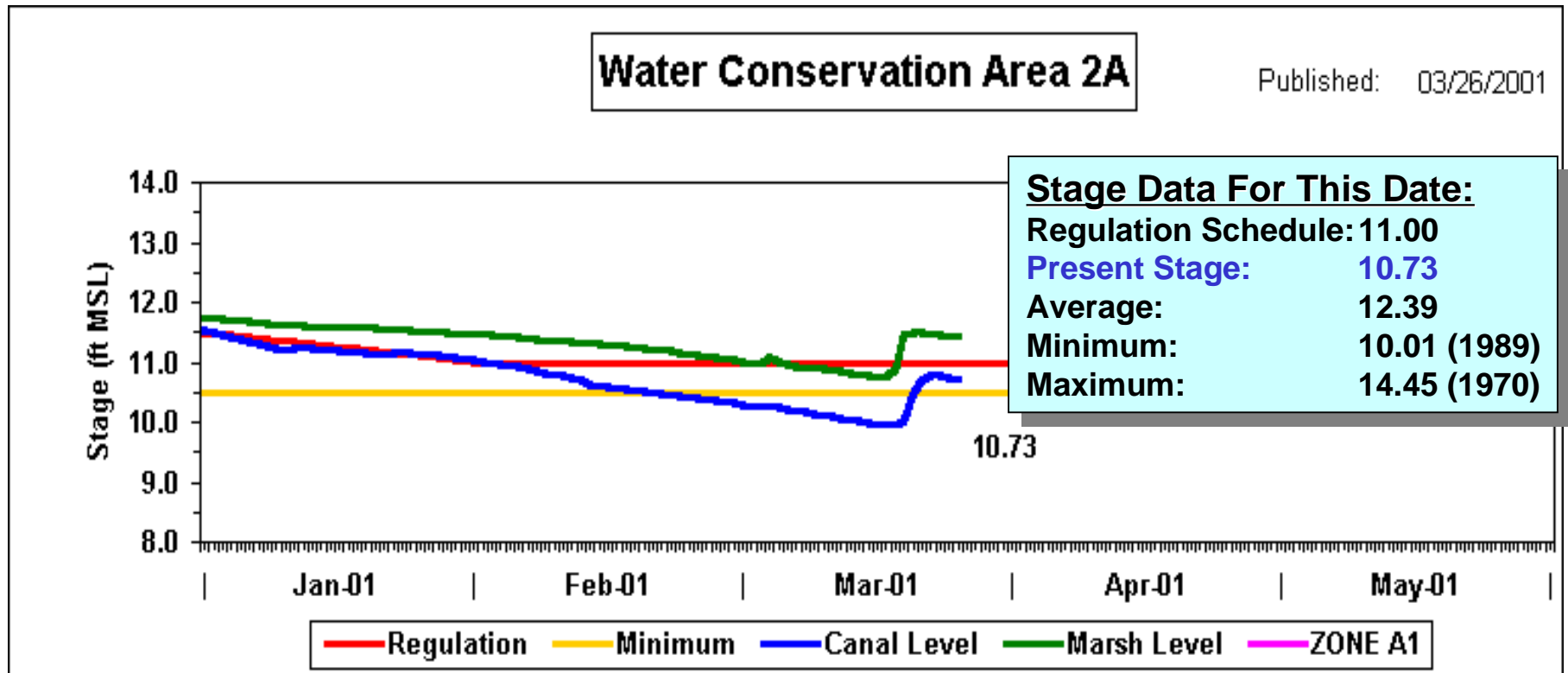


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Hydrologic Conditions

Water Conservation Areas

- WCA-2A stages presently below average
- Levels near the flood regulation schedule

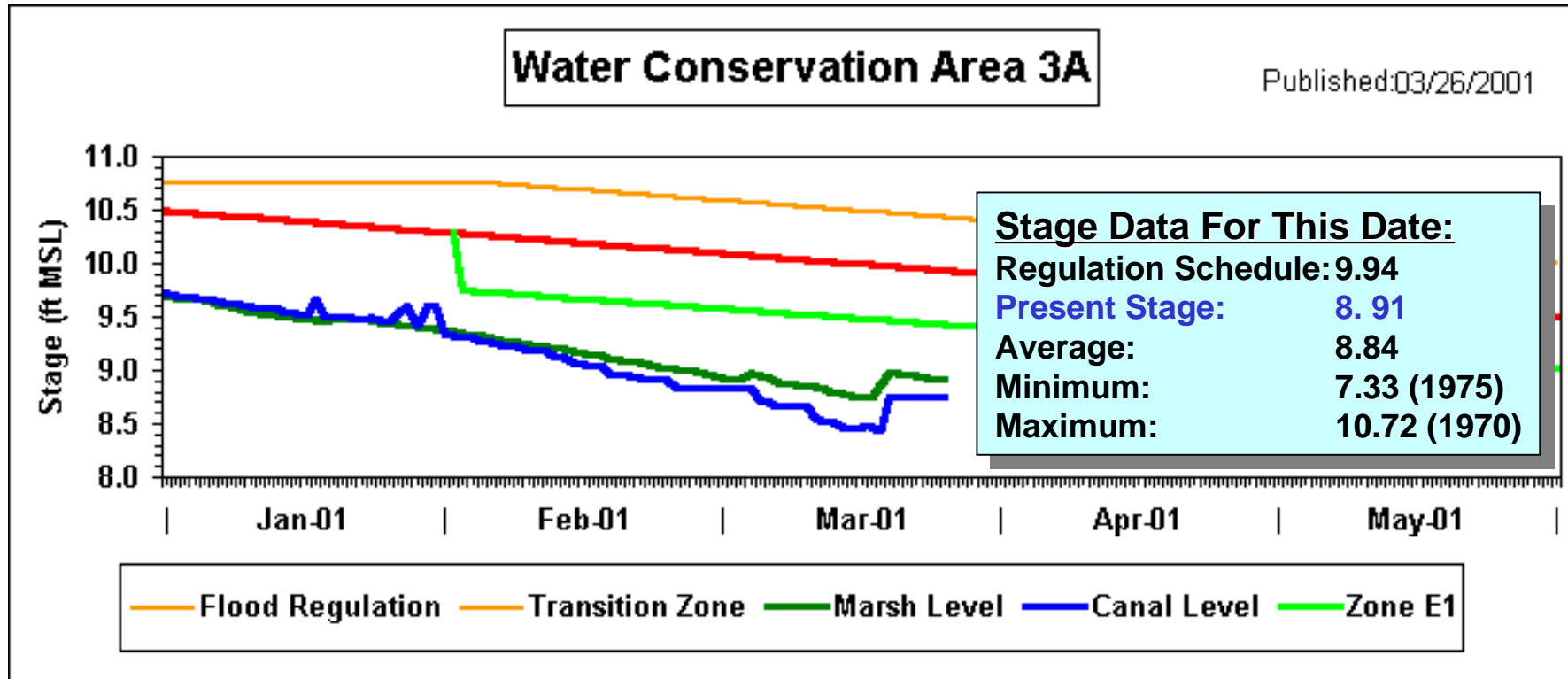


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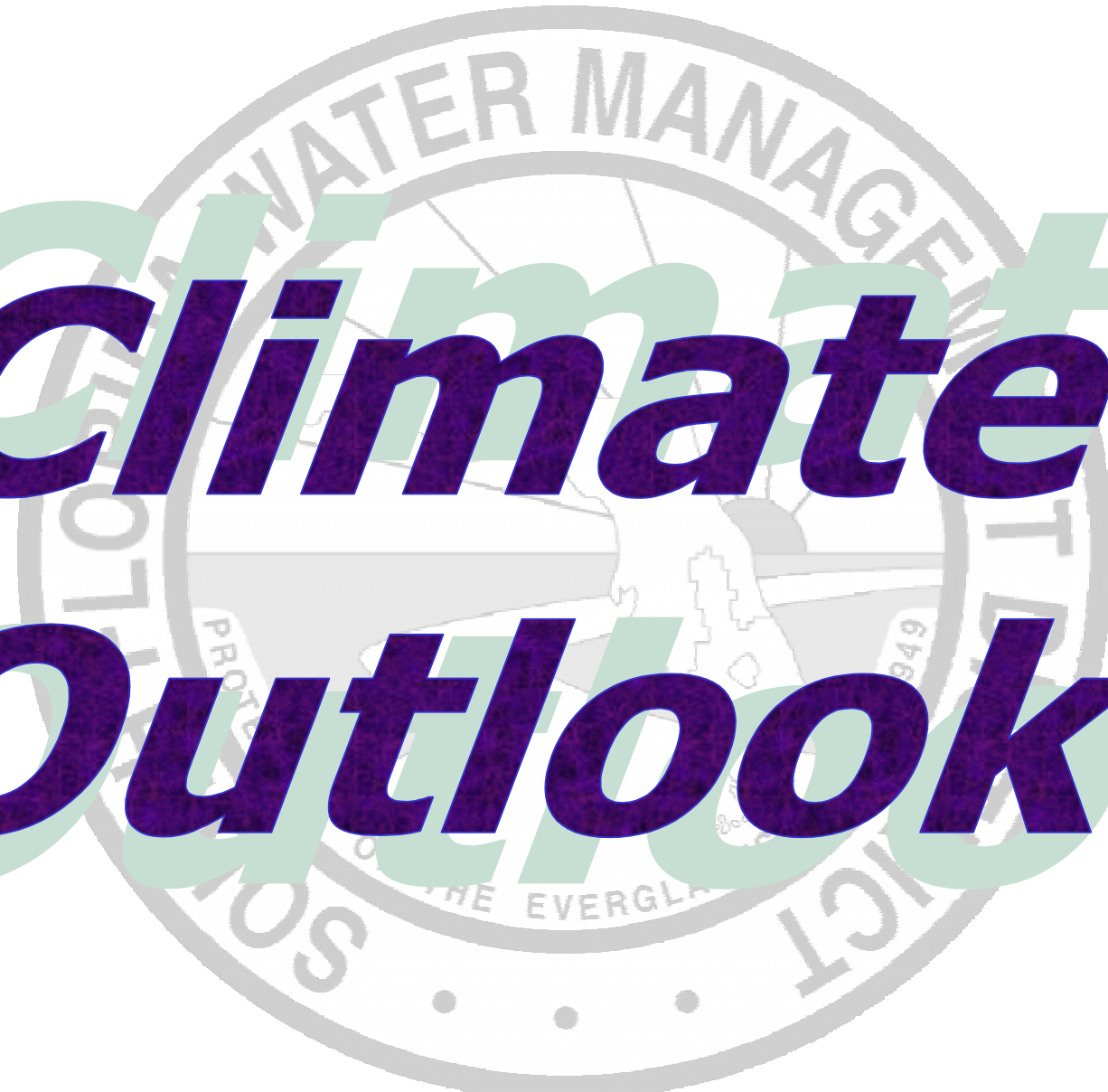
Hydrologic Conditions

Water Conservation Areas

- WCA-3A stages presently above average



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The background features a large, faded circular seal of the South Florida Water Management District. The seal contains a map of the district, a compass rose, and the text "SOUTH FLORIDA WATER MANAGEMENT DISTRICT" around the perimeter. Inside the seal, it says "PROTECTING THE EVERGLADES" and "1949".

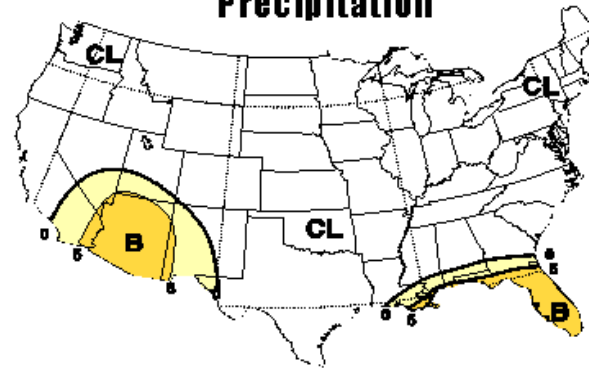
Climate Outlook

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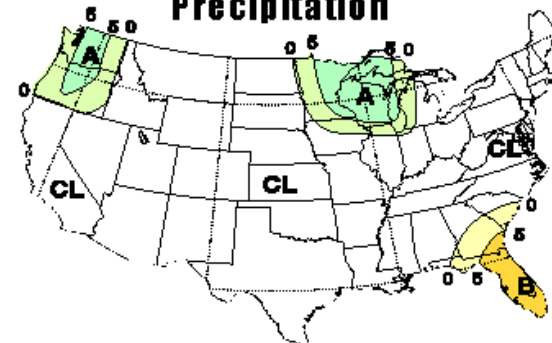
Seasonal Climatic Outlook

- CPC reports that April 2001 through June 2001 has a slightly higher probability of below normal rainfall

**Climate Outlook
April 2001
Precipitation**

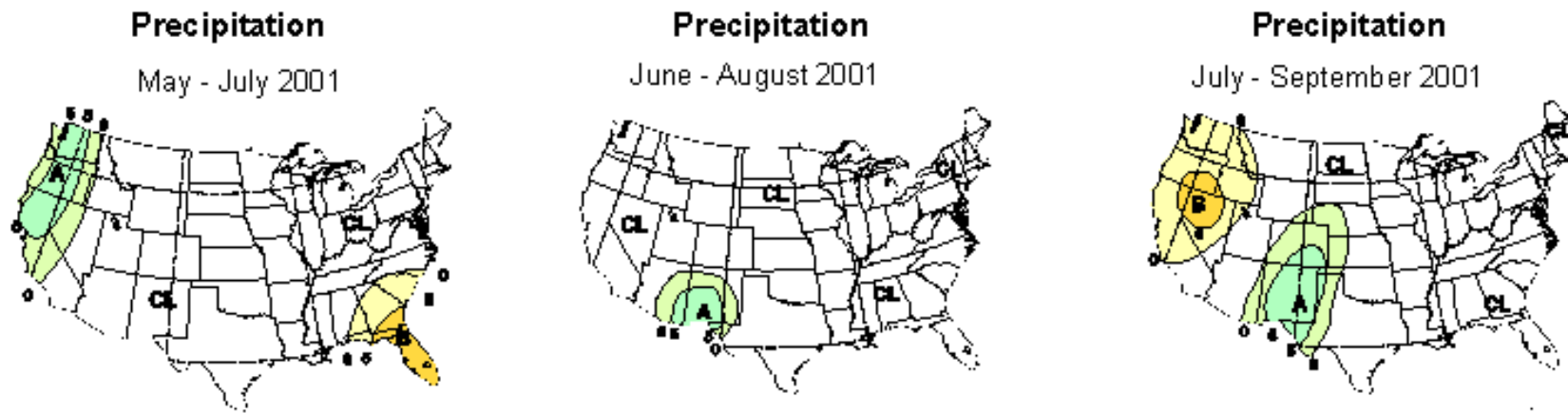


**Climate Outlook
April - June 2001
Precipitation**



Long Term Climatic Outlook

- CPC indicates that late dry season thru early wet season is forecast to have slightly higher probability of above average rainfall

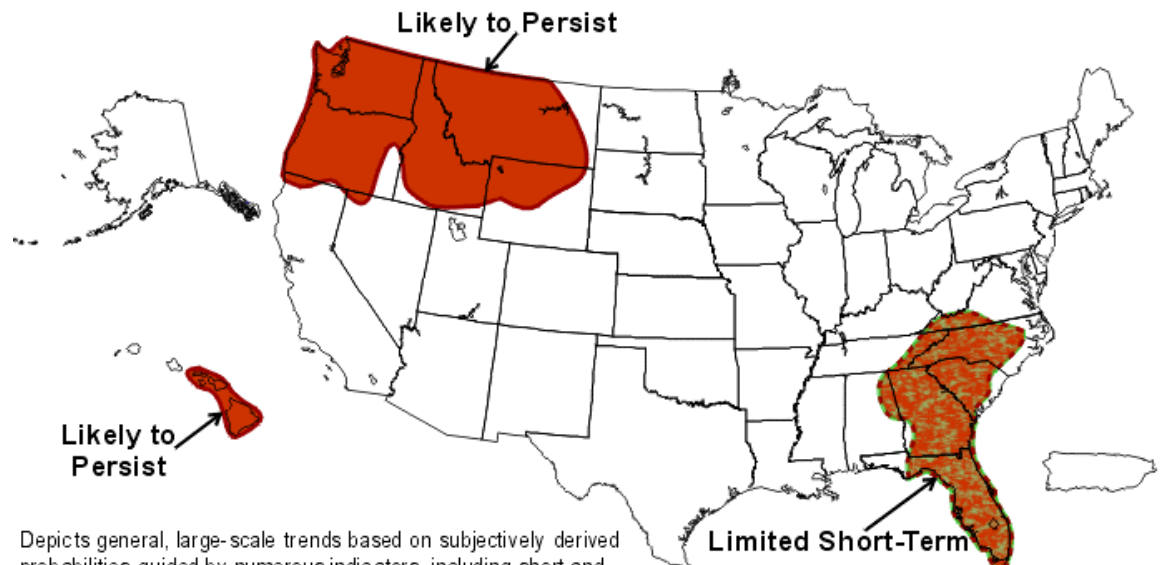


Drought Outlook

- Drought threat to most of the District is expected to persist at least through June 2001




Seasonal U. S. Drought Outlook Through June 2001 Released March 15, 2001



Depicts general, large-scale trends based on subjectively derived probabilities guided by numerous indicators, including short and long-range statistical and dynamical forecasts. Short-term events--such as individual storms--cannot be accurately forecast more than a few days in advance, so use caution if using this outlook for applications--such as crops--that can be affected by such events. Initial drought areas--shown schematically--are approximated from the Drought Monitor. For weekly updates on drought, see the latest Drought Monitor map and text.

**Limited Short-Term
Improvement;
Hydrologic Impacts
Likely to Persist**

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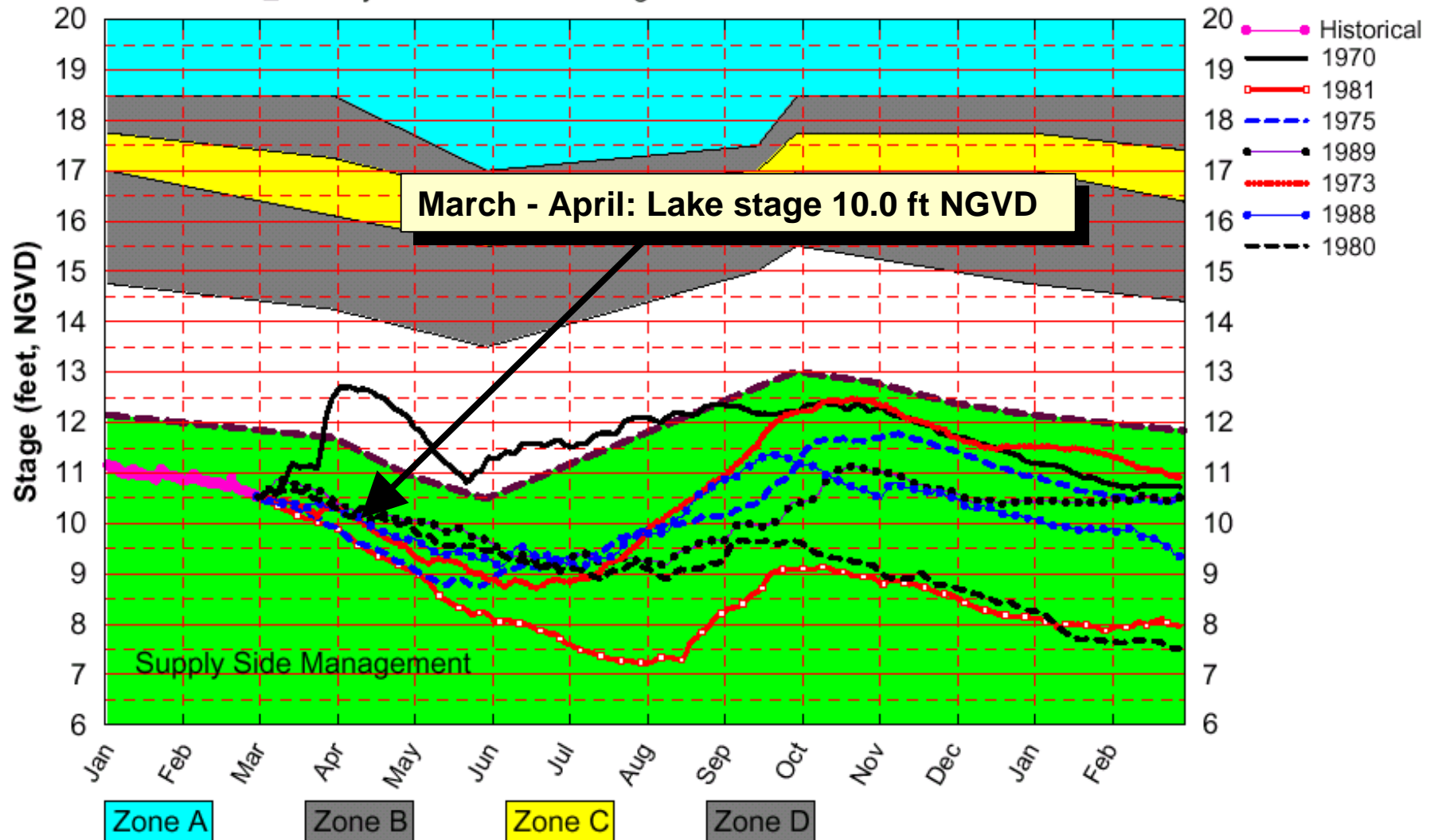


Hydrologic Outlook

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Lake Okeechobee SFWMM Model Position Analysis

W33MD_RR Dry Years Plot with Stage Initialized to 10.53 feet on 3/1/2001



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Hydrologic Outlook

- Lower East Coast groundwater levels expected to fall
 - Limited supplemental water from the Water Conservation Areas is being supplied to Palm Beach and northern Broward County
- Water Conservation Areas are falling below their minimum levels for water supply withdrawals
 - Demand has been shifted to Lake Okeechobee for supplemental water
- Lake Okeechobee is expected to reach all-time *record* low level this year
 - Record level (1981): 9.79 ft. NGVD
 - Possible low level (2001): 8.0 - 7.0 ft NGVD



Operational Issues

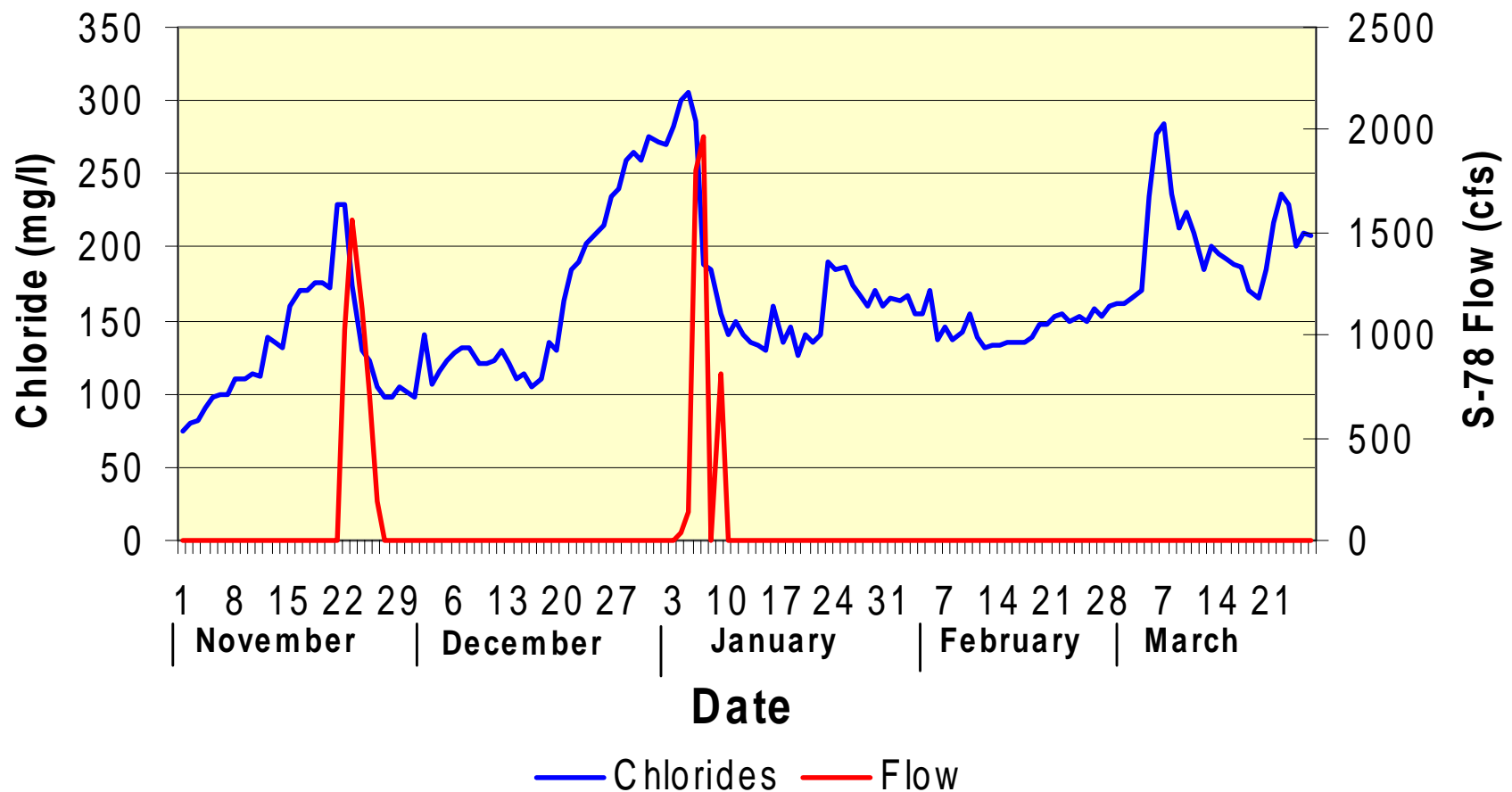
- Forward pumping operations to pull water from Lake Okeechobee to the Lower East Coast and agricultural areas will be completed in approximately 2 weeks
- These operations will be constrained by...
 - Forward pump capacity
 - Competing water demands
 - Canal / structure conveyance capacity
- These constraints will limit water potentially available for delivery to the Lower East Coast
- Water deliveries will be made to reduce impacts to localized threatened areas





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S-79 Chloride Levels



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